

IN THE CLAIMS

Claims 1-8 and 10-14 were canceled in the attached transmittal. Accordingly, Claims 9 and 15-40 are pending in the instant application. Claims 9 and 15-40 are provided below as a courtesy.

1-8. (Canceled).

9. (Original) A breastshield for a breastpump, comprising:

a part having an interior longitudinal axis within which at least a portion of a woman's breast including a breast nipple is received, said part having a flexible area formed thereon, said flexible area having a rest position and being capable of moving relative to a breast received within said conical part, said flexible area having an inboard side facing the breast and an outboard side; first pressure means operating on said flexible area outboard side for moving said flexible area cyclically toward and away from said axis, said first pressure means generating a positive pressure to press said flexible area inboard relative to said rest position and toward said axis and a negative pressure alternating with said positive pressure to move said flexible area outboard relative to said rest position and away from said axis; and second pressure means generating a negative pressure within said interior.

10-14. (Canceled).

15. (Original) A breastshield for a breastpump, comprising:
a base member, said base member having a port through which air and milk can pass;
a breast receptacle mounted on said base, said breast receptacle having an expansible
chamber with an inner flexible sidewall which further forms an interior space
adapted to receive at least a portion of a woman's breast including the nipple
therein, said breast receptacle being formed in a single piece having a u-shaped
cross-section from top to bottom, with an inner shield part, an outer shield part
spaced from said inner shield part and a smoothly curved top transition part,
said inner, outer and top parts defining said expansible chamber surrounding
said interior space;
a first port formed in one of said base and said breast receptacle in communication
with an interior of said chamber for connection with a source of fluid pressure;
a second port formed in one of said base and said breast receptacle in communication
with said expansible chamber for communication with said source of fluid
pressure.

16. (Original) The breastshield of claim 15, wherein said single piece of said breast
receptacle has an outer shield part with a greater wall thickness than said inner flexible sidewall,
such that said outer shield part is relatively rigid compared to said inner flexible sidewall.

17. (Original) The breastshield of claim 15, wherein said single piece of said breast
receptacle is initially formed as a flexible-walled member enclosing an interior region with
opposed first and second end openings to said interior space, and said breast receptacle is then
provided by causing said first end to be inverted into said interior region and then placed within
said second end.

18. (Original) A breastshield for a breastpump, comprising:

a base member, said base member having a port through which air and milk can pass;

a breast receptacle mounted on said base, said breast receptacle having an expansible chamber with an inner flexible sidewall which further forms an interior space adapted to receive at least a portion of a woman's breast including the nipple therein, said breast receptacle being formed in a single piece having a teardrop-shaped cross-section from top to bottom, with an inner shield part, an outer shield part spaced from said inner shield part and a smoothly curved top transition part, said inner, outer and top parts defining said expansible chamber surrounding said interior space;

a first port formed in one of said base and said breast receptacle in communication with an interior of said expansible chamber for connection with a source of fluid pressure;

a second port formed in one of said base and said breast receptacle in communication with said expansible chamber for communication with said source of fluid pressure.

19. (Original) The breastshield of claim 18, wherein said single piece of said breast receptacle is initially formed as a flexible-walled member enclosing an interior region with opposed first and second end openings to said interior space, and said breast receptacle is then provided by causing said first end to be inverted into said interior region and then placed within said second end.

20. (Original) The breastshield of claim 18 wherein said breast receptacle part is formed from a single piece of flexible material which yields an outboard circumferential sidewall extending into a smoothly curved forward wall and then extending into an inboard circumferential sidewall, said sidewalls being spaced from each other to form said expansible chamber, said forward wall defining an opening into said interior formed by said inboard circumferential sidewall, said sidewalls terminating in a rearward wall end structure which is mounted to said base member.

21. (Original) The breastshield of claim 20 wherein said rearward wall end structure is removably mounted to said base member.

22. (Original) The breastshield of claim 21 wherein said rearward wall end structure is an open ring-shaped channel formed by spacing said sidewalls apart, said base member having a ring-shaped collar which is received in said ring-shaped channel and upon which said receptacle part is thereby sealably mounted.

23. (Original) The breastshield of claim 21 wherein said rearward wall end structure is formed by bringing said sidewalls together to form a ring, said base member having a ring-shaped well within which is received said ring to thereby sealably mount said receptacle part to said base member.

24. (Original) The breastshield of claim 23 wherein a gap is left between said sidewalls in at least a part of said ring, said base member having said first port formed therein and extending into said well to communicate with said expandible chamber through said gap.

25. (Original) The breastshield of claim 23 wherein said base member has said first port formed therein extending through said collar to communicate with said expandible chamber through said ring-shaped channel.

26. (Original) The breastshield of claim 15 wherein a valve is provided between said pressure source and said first port, said valve having a first position for maintaining a desired pressure level within said expandible chamber and a second position for releasing said pressure level.

27. (Original) The breastshield of claim 18 wherein a valve is provided between said pressure source and said first port, said valve having a first position for maintaining a desired pressure level within said expandible chamber and a second position for releasing said pressure level.

28. (Original) A breastshield having a breast receptacle part formed from a single piece of flexible material which yields an outboard circumferential sidewall extending into a smoothly curved forward wall and then extending into an inboard circumferential sidewall, said sidewalls being spaced from each other to form said expansible chamber, said forward wall defining an opening into said interior formed by said inboard circumferential sidewall, said sidewalls terminating in a rearward wall end structure which is mounted to a base part.

29. (Original) The breastshield of claim 28 wherein said rearward wall end structure is removably mounted to said base part.

30. (Original) The breastshield of claim 29 wherein said rearward wall end structure is an open ring-shaped channel formed by spacing said sidewalls apart, said base part having a ring-shaped collar which is received in said ring-shaped channel and upon which said receptacle part is thereby sealably mounted.

31. (Original) The breastshield of claim 29 wherein said rearward wall end structure is formed by bringing said sidewalls together to form a ring, said base part having a ring-shaped well within which is received said ring to thereby sealably mount said receptacle part to said base part.

32. (Original) The breastshield of claim 31 wherein a gap is left between said sidewalls in at least a part of said ring, said base part having said first port formed therein and extending into said well to communicate with said expansible chamber through said gap.

33. (Original) The breastshield of claim 32 wherein said base part has said vacuum port formed therein extending through said collar to communicate with said expansible chamber through said ring-shaped channel.

34. (Original) The breastshield of claim 28 further including a chamber port communicating with said chamber for connection of a source of positive pressure thereto to expand said chamber, and further including a valve between said source of positive pressure and said chamber port, said valve having a first position for maintaining a desired pressure level within said expansible chamber and a second position for releasing said pressure level.

35. (Original) A breastshield for breastmilk pumping, comprising:

- a rigid outer shield part, said outer shield part having left and right portions which join together;
- an inner shield part mounted within said outer shield part, said inner shield part forming an inner sidewall to the breastshield and defining an interior adapted to receive therein and surround at least some of a woman's breast including a nipple in a substantially airtight engagement with the breast;
- a flexible area formed on said inner shield part, said flexible area capable of movement relative to a breast received within said breastshield;
- a first space defined between said flexible area and said outer shield part;
- a first port communicating with said first space to connect a source of fluid pressure to said space whereby application of a source of positive fluid pressure to said first space causes said space to expand to thereby move said flexible area,
- a second port communicating with said interior, whereby application of a source of negative pressure to said interior causes the breast to be pulled further into said interior.

36. (Original) The breastshield of claim 35 wherein a conduit is formed within said outer shield part to communicate pressure to said first space.

37. (Original) The breastshield of claim 36 further comprising a second space defined between said flexible area and said outer shield part, said second space being located downstream relative to the breast and said first space, said second space being isolated relative to said first space, said second port communicating with said second space to connect a source of fluid pressure to said second space, wherein said first and second spaces are capable of expanding and contracting independently of each other.

38. (Original) The breastshield of claim 37 further comprising a third space defined between said flexible area and said outer shield part, said third space being located downstream from said first and second spaces and being isolated relative to said first and second spaces, and a third port communicating with said third space, whereby application of a source of either positive or negative pressure causes said third space to respectively expand or contract independently of said other spaces.

39. (Original) The breastshield of claim 38 wherein said third space is an elongated section of said flexible area which extends into said interior, said elongated section being acted upon by a negative pressure applied outboard relative to said elongated section to thereby move away from said interior and thereby generate a negative pressure within said interior while also serving to isolate said source of negative pressure from milk expressed within said interior.

40. (Original) The breastshield of claim 35 wherein said left and right portions engage in a clamshell arrangement around said inner shield part and are releasably connected to enable removal of said inner shield part from said outer shield part.